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than 6.0 being included in a single group in each case. After tabulating the results, the effect of parallax was taken into account, and by the use of appropriate factors, derived from KAPTEYN'S researches on the average parallaxes of the stars, the numbers of each distance class were formed on the assumption that all of the double stars were removed from us to the distance,—in the first case of the average star of 8.5 magnitude, in the second case of 8.75 magnitude.

The first count included 6,973 pairs, or, neglecting those in which both components are as faint as 9.1 magnitude, 5,809 pairs. The second count includes 2,169 pairs in a sky area containing 44,634 stars of 9.0 B. D. magnitude or brighter.

The figures in each of the two tables (here omitted) show very clearly—(1) that the actual number of close double stars greatly exceeds the number with moderate distances between the components, and (2) that the increase in number progresses with the decrease in separation.

By comparing the total numbers of double stars of the various orders of magnitude in the second count with the total numbers of B. D. stars of corresponding magnitudes in the sky area examined, it also appears that one star in thirteen or fourteen of those as bright as 8.0 B. D. magnitude is a double star under 5″.0, while among the stars between 8.0 and 9.0 magnitude the ratio is only 1 to 25. This would seem to indicate either that the number of visual double stars under 5″.0 is greater among the brighter stars or that a larger percentage of the latter has been discovered. The latter alternative would strengthen our first conclusion, stated above. The fact that the observations of CAMPBELL, FROST, and others have shown that one star out of five or six of those with well-determined radial velocities is a spectroscopic binary, and that the average magnitude of the known spectroscopic binaries, excluding the variable stars, is about 4.0, makes the ratios just given at least of interest if not of significance.

March, 1910.

R. G. AITKEN.

NEW DOUBLE STARS.

In the course of my regular double-star work I have recently found closer companions to the three double stars Σ 772, Σ 1064, and Ho 357. In the first star each component proves to be a close pair; in the other two it is the principal component that is now resolved.

I have also found that the bright star *ρ Geminorum* (4.2 magnitude), which precedes *Castor* about 1°.4, has a faint companion less than 3″ distant from it. As the principal star has a proper motion of 0″.23 in the direction 31°.4, the measures of the next two years will decide whether or not this is a physical system.

The mean results of my measures of these four systems are:—

Σ 772.

R. A. $5^h 36^m 5^s$; Decl. + 21° 32′

	Angle.	Dist.	Mag.			
1910.10	115°.9	0″.38	9.1 — 9.8	3^n	A and B	New
1910.10	212 .1	1 .40	9.1 — 13.2	3	C and D	New
1910.10	243 .1	30 .21	8.6 — 9.1	3	A B and C = Σ 772	

Σ 1064.

R. A. $7^h 12^m 26^s$; Decl. — 11° 51′

	Angle.	Dist.	Mag.			
1910.14	336°.4	0″.30	7.7 — 7.7	2^n	A and B	New
1910.10	240 .2	15 .64	7.0 — 9.5	1	A B and C = Σ 1064	

ρ Geminorum.

R. A. $7^h 22^m 41^s$; Decl. + 31° 59′

	Angle.	Dist.	Mag.	
1910.19	11°.4	2″.80	4.2 — 12.5	2^n

Ho 357.

R. A. $8^h 47^m 48^s$; Decl. + 26° 40′

	Angle.	Dist.	Mag.			
1910.15	254°.6	0″.32	6.9 — 8.0	3^n	A and B	New
1910.13	4 .2	38 .79	6.6 — 12.0	1	A B and C = Ho 357	

There is no evidence of change in the wide Struve pairs, but the distance of the Hough pair is increasing, probably by the proper motion of the bright pair.

R. G. AITKEN.

March 12, 1910.

NOTE ON HALLEY'S COMET.

Halley's Comet at the end of April was a fairly conspicuous object in spite of the strong moonlight, rising over two hours ahead of the Sun. On the morning of April 29th its effective